

## WHAT IS CLAIMED IS:

1. A power semiconductor device comprising:

a ceramic substrate having a thickness of 0.5 to 1 mm;

a power semiconductor element;

a circuit pattern made of an aluminum alloy and provided on an upper main surface of said ceramic substrate and having a thickness of 0.4 to 0.6 mm on which said power semiconductor element is held;

a lower pattern made of said aluminum alloy and provided entirely on a lower

10 main surface of said ceramic substrate opposite to said upper main surface;

a metal base plate made of a copper alloy having a thickness of 3.5 to 5.5 mm to be opposite to said lower pattern; and

a soldering layer provided between an entire surface of said lower pattern and said metal base plate for forming a joint therebetween.

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2. The power semiconductor device according to claim 1, wherein a thickness of said lower pattern is 0.2 mm or less.

20 3. The power semiconductor device according to claim 2, wherein a thickness of said soldering layer is 100 to 300  $\mu$ m.

4. The power semiconductor device according to claim 3, further comprising a wire bump provided on said lower pattern.

25 5. The power semiconductor device according to claim 1, wherein a thickness

of said lower pattern is 0.1 mm or less.

6. The power semiconductor device according to claim 5, wherein a thickness of said soldering layer is 50 to 400  $\mu$ m.

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7. The power semiconductor device according to claim 6, further comprising a wire bump provided on said lower pattern.

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